The composition of the gas from 1 kilogramme G will lerftforA hp>
j. therefore be
5*14XO'361=1-S6 cubic metres CO X 0-047=0-24 „ H
X0-592=3'04 „ N
Total 5-14 cubic metres steam-air g:as,
in which 0*24 cubic metre H is contained, which from formula (12) produces 0*24 cubic metre H20 vapour, or transposing this into kilogrammes, one obtains by multiplying the volume by the weight of 1 cubic metre 0-24xO'8501=0'198 kilogramme steam.
The amounts of steam to be employed and also the hydrogen content of the steam-air gas are thus remarkably small, if one obtains in the production of this same, formation of pure CO, and the result is in accordance throughout with all observations which have been able to be made practically.

(e) THE COMBUSTIBLE VALUE OF THE GAS PRODUCED AND THE EFFICIENCY OF THE PRODUCER.

The calculation of the combustible value of the gas produced for a certain gas volume is easily performed by multiplication of the volume of each individual combustible gas by its combustible value, which can be taken from the tables given in the Appendix, and by addition of all the products. Usually, the combustible value for 1 cubic metre gas is given, and then one uses direct the figures in the gas analyses (whilst one naturally shifts the decimal point two places to the left). If one, however, wishes at the same time to know the efficiency of the producer, one must refer the volume of gas and its combustible value to the unit of weight of the combustible which will be employed, and the combustible value of which must likewise be known. The combustible value of the same kind of fuel varies, however, quite importantly, which is clearly perceivable owing to the ash content .and the content of hygroscopic water in fuel being subject to great fluctuations. Therefore, the writer is more inclined to refer the amount of gas and the combustible value of the gas to the unit of weight of carbon in the gas